The challenge of fear to economics

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The human soul has need of security and also of risk. The fear of violence or of hunger or of any other extreme evil is a sickness of the soul. The boredom produced by a complete absence of risk is also a sickness of the soul.

Simone Weil, *Draft for a Statement of Human Obligation*

According to the historian Bourke (2005, ix), fear is "the most pervasive emotion of modern society". Stossel (2014) points out that, at least in America, Britain and Canada, millions of people suffers from some kind of anxiety disorder (a strict relative of fear), and emphasizes the resulting huge social and economic costs, both in terms of health care and productivity (days of work) loss. In today's world, fear is increasingly called upon to explain individual and governmental choices. Issues like terrorism (see Göritz and Weiss 2014, Becker and Rubinstein 2011), war and natural catastrophes are debated in the economic literature because of the real and perceived effects they have on well-being and economies, as well as of their direct or indirect influence on public and institutional policies. But fear may also play a central role in explaining the propagation of financial crises such as the one the world has recently been experiencing (Bracha and Weber, 2012), or in determining economic agents' consumption behaviour (Gambetta and Giusberti 2014, Tur-Sinai 2014).

Still, for a number of different reasons, many of them investigated in the *Mind & Society* symposium (M&S 13(2), 14(1)) on "Fear, Economic Behavior and Public Policies", has so far tended to

undervalue, on average, the importance of fear (see Amsel, Harbo and Halberstam 2015, Nelson 2015). Fear has been traditionally regarded as pertaining to an alternative domain with respect to rationality; passions, and (in more modern jargon) emotions are usually seen as obstacles to the expression of rationality. To refer to – arguably – the most important economist in the history of the discipline, in both his epistemological and economic writings, John Maynard Keynes clearly distinguished between sources of beliefs, on one side, and reasons to hold them, on the other, as guide for action. In Keynes's non-Humean view of human action, sources of beliefs include habits, social conventions, waves of optimism and pessimism, as well as passions. Reasons to hold beliefs belong, conversely, to logic: they correspond to an objective dimension in thinking, juxtaposed to the subjective/psychological elements involved in decision-making. While recognizing the importance of conventional expectations and conventions, Keynes's economics represents a struggle to enhance the possibility of reasonable (not "rational", therefore) – that is, grounded on some reasons – judgement and in the possibility of change by human design (see Carabelli and Cedrini 2013).

Yet the greatness of Keynes lies also in having drawn attention to those same "passions", in his analysis of financial markets and investment decisions. Akerlof and Shiller (2009) have recently put the role of "animal spirits" in economic decisions into evidence. Entrepreneurs may lack (and often lack) adequate, however partial knowledge about the possible returns of their investments, and can be paralyzed by the low levels of the confidence with which they make their forecast: in the impossibility to shape reasonable expectations, they thus recur to non-rational motives, instincts, desires and passions. Using the expression "animal spirits" (which in the *General Theory of Employment, Interest and Money* is employed to denote a "spontaneous urge to action rather than inaction", Keynes, 1973a, 161), Akerlof and Shiller provide a background analysis of the financial crisis of 2008-9 resting upon impulses, representations of the world, illusions, need for illusions, trust and its excess or decline. Akerlof and Shiller's point therefore to the role that emotions, such as fear, and apprehension – in particular, lack of trust – play in understanding how economies evolve.

In truth, in the Seventies, when economics imperialism conquered the mainstream of the discipline,

Kenneth Boulding (1973) attempted to bring the issue of fear to the forefront of economists' concerns, questioning the narrow view of preferences underlying the *homo oeconomicus* paradigm of neoclassical economics. But it was the development of behavioural economics that most contributed to push further the frontiers of the discipline by positing the need for economics to account for all relevant aspects involved in human decision-making. Camerer and Loewenstein (2004, 3) famously asserted that underlying behavioural economics is "the conviction that increasing the realism of the psychological underpinnings of economic analysis will improve the field of economics *on its own terms* – generating theoretical insights, making better predictions of field phenomena, and suggesting better policies".

At an epoch when economics appears less imperialistic towards other disciplines, and rather tolerates forms of "reverse imperialism" from psychology in particular (see Frey and Stutzer 2001-2), fear is often regarded as an emotional bias. Operating in a not dissimilar way from cognitive biases, fear is seen as triggering mechanism of anomalous, even irrational behavior. We now know (after Damasio's 1994 study of individual with limited emotional capacity, among others) that emotions do matter, and assist the reasoning process. With their work on heuristics, and the development of "prospect theory", Kahneman and Tversky's (1979) shaped the field. Individuals use heuristics in approaching problems with a view to solving them, and their reasoning and behavior are obviously influenced by social interactions. But heuristics cause fallacies and cognitive biases, fear being a highly influential factor connected with living in a societal context. While fear is felt at an individual level, it is influenced by society and has clear social effects. Variously involving some kind of "fear of", "biases" and their consequences require solutions. In a well-known article by Becker and Rubinstein (2011, 1), fear is said to produce "distortive effect … on subjective beliefs and individual choices". But fear as emotion can be "managed", and people can "learn to control their fear", "economic incentives affect[ing] the degree to which they do so". Writing on the aversion for dread risk, or "low-probability, high-consequence events" such as the terrorist attack on September 11, 2001, which induced people to avoid flying and thereby face arguably higher risks by travelling by car, Gigerenzer (2004, 287)

suggests that it should be mandatory to "inform the public about psychological research concerning dread risks".

But the "back to rationality" strategy of improving public awareness and knowledge is only one among various possible solutions. Thaler and Sunstein's (2008) "libertarian paternalism", the idea of developing soft paternalist (liberty-preserving) policies aimed at influencing choices in the attempt to help people to make themselves better off, without forbidding options or significantly altering economic incentives, provides a powerful alternative. It is to be noted that this view of heuristics assumes standard rational choice theory as "central point of reference … not only as a normative ideal but also as a potentially realizable state of affairs that could be brought about by active policy intervention" (Davis 2013, 124). Whereas Gigerenzer and the Adaptive Behavior and Cognition research group (Gigerenzer and Selten 2001) have later emphasized, pushing Simon's (1956) work further, the relevance of rational, even efficient "fast and frugal heuristics" used to make choice in environments characterized by uncertainty. In truth, Gigerenzer and the ABC group question the idea itself that something called calculative rationality can be distinguished from alternative grounds for action. Public policies must then take into account the concrete circumstances of choice, and be "attentive to how people actually solve decision problems. Their established heuristics are likely to be adaptive to their circumstances, and not in need of correction" (Davis 2013, 125).

The least one can say (also having in mind the general results of recent research on the neuroscience and neuropsychiatry of fear, as Amsel, Harbo and Halberstam 2015 note) is that fear is a complex object. Despite its negative influence in creating biases and harmful heuristics, and the possibility it offers to organizations and other choice architects trying to influencing people's behavior to exploit it in an unethical manner, fear may play a positive role as useful heuristic, as proponents of the "nudge" approach aptly recognize. In Simon's (1983) view, fear is (not only, but also) a tool designed for agents endowed with bounded – rather than Olympic – rationality, unable to maximize overall utility functions and to make more than one decision at a time, to remind them what is more urgent and suggest the action they need to undertake. When fear is denied, writes Nelson (2015), agents

might be induced to excessive risk-taking.

In general, fear may be defined as a feeling of anxiety for a specific negative or dangerous possible event, but it may be also related to a sense of discomfort produced by something we do not know, something we do not understand, something we are unable to categorize. To some extent, this dichotomy resembles the distinction between risk and uncertainty introduced in economics by Knight (2002). In a risky situation, the agent understands the possible results of a choice and s/he may feel threatened only by a clear negative outcome. Radical uncertainty, on the contrary, deprives the agent of the possibility to make optimal choice on the basis of reliable information about the future, since this information is simply not available. In the former case, uncertainty is measurable, whereas in the latter uncertainty is not susceptible of measurement: consequently, lack of knowledge is the main threat for the agent. The need to understand the possible states of the world that s/he is destined to face compels the agent to formulate different narratives about the future, or different theories on what s/he should fear and what kind of fear s/he should feel for unknown events. Bernstein (1996) comes to describe the theory of probability as the attempt to reduce fear of a completely uncertain world to something that may be more manageable for human beings; the concept of risk is itself a reaction to the lack of knowledge experienced by men when God is not regarded as the maker of our life any longer.

The concept of risk grants economists the possibility to build elegant formal models. However, the belief of being able to manage risks easily transforms into the dangerous illusion of living in a predictable world: economists' faith in formalism derives from the ideal of the rational, utility-maximizer agent of standard economic theory, and from formalism comes the myth of predictability and risk management (see Carrier and Miller 1998). In *A Treatise on Probability*, Keynes (1973b) had already warned economists that not all risks can be treated as mathematical risks, that is as if they were calculable probabilities. A forgotten lesson, as the current crisis shows. For "the real objectives of macro-economic models is not to improve our forecast a little bit when things are going well, but to predict the 'big' events, critical turning points, like the beginning of a recession" (Stiglitz 2013,

16). Today's mainstream macroeconomic models tend to ignore the pervasiveness of uncertainty, itself the result of the endogeneity of the sources of downturns. To the problem of inadequate financial regulation, one should necessarily add, when investigating the roots of the crisis, faith in risk measurement methods such as Value-at-Risk (VaR) models for financial portfolio. Methods which, as Taleb (2009, 3, 5) explains, directly encourage "high blowup risk taking" and are the "engine behind leverage".

All this indirectly suggests that it would be an error to neglect the relevance of fear, and that this negligence can have harmful socio-political consequences. After all, many of the risks faced by contemporary Western societies are just the dark side of scientific development, namely, of the desire, in itself illusory, to manage all risks (Beck 2007). And fear has a self-creating nature: war to terror determines further terrorist actions, with the result of increasing fear. It is to be noted that governments, in "risk societies", have an incentive to cultivate manageable (or apparently so) risks, by defining certain situations as dangerous while neglecting other threats. When public authorities have to legitimate their role as risk managers, risks are, at least in part, social constructions. And governments raise expectations of a safe world they are scarcely, if at all, able to assure. Contrary to what elegant theoretical constructions in economics may induce to believe, we do not possess reliable information regarding the probabilities of all conceivable future events. We are even unable to understand that the world is not ruled by the bell curve. We sistematically underestimate the probability of extreme events. We invoke the ergodic axiom (see Davidson, 2009), but we fail to recognize that by assuming that the past with its data samples is a perfect guide for the future, we are uncautiously stating that all we will know in the future is exactly what we now in the present, and nothing more (Taleb, 2007). Our obsession with measurable uncertainties and bell-curves distributions shrinks the scope for active action and creativity, ending with posing strong limits to our capacity of control over the environment.

Humans are endowed with bounded rationality, to use Simon's expression: we necessarily rely on information and suggestions we get from others. "Docility", as Simon (1993) calls this tendency, is

thus a key component of our behaviour. In risk societies, we also rely on expert systems (see Busso 2014), called upon to enhance the security and quality of our life. The confidence we have in experts of all kinds helps us limit the uncertainty we perceive and experience. But if experts do not seem to be able to contrast the growing of fear, this is because in the process, we progressively perceive or experience loss of control in everyday life. Which is also, and mostly, due to that very same need for experts, who cope with threats and dangers coming from the environment. Institution are a key player in this game: required to institutionalise rules of behaviour allowing people not to experiment fear-provoking situations any longer, they acquire trustworthiness and legitimacy through a relation with, or the incorporation of, expertise and the use of a model of decision-making that is inspired by the ideal of rationality, technical knowledge and objectivity. Thus, expert systems and "rational" institution may result in reinforcing and widening that same feeling of impotence and fear that they were designed to counteract.

Is a freed-from-fear world a desirable goal? As hinted at above, fear has biological and evolutionary roots. Fear is an individual tool for setting the agenda of priorities, helping humans decide on what should be consciously, properly taken into account (Simon, 1983). Fear reduces the space of direct rationality in decision-making, but helps agent evaluate – and learn to evaluate – signals and formulate quick responses (which require more or less automatic mechanisms) to stimuli coming from the environment. Fear is part of a more general story: that of one's attempt to improve his/her decision-making capacity in a complex environment via one's own actions. We learn from the past and progressively adapt to the environment; we discover whether the decisions we made at a stage when hopes and fears interact yielded good or bad results, and discard those that produced a majority of bad results. Emotions play a crucial role in the process of learning. They can be conceived as a by product of a kind of "ecological rationality" (on the concept, see Levin and Aharon 2014), wherewith we attempt to improve our ability to deal with the environment and master the uncertainty inherent to the world we live in. Suppressing fear might be dangerous. As pointed out by Akerlof and Dickens as early as 1984, people have a tendency to reduce cognitive dissonance: in order to avoid suffering

fear, they end up with treating risks as worth ignoring (see Sunstein 2005). Fear is suppressed at the cost of facing real dangers.

Not fear, but "risk starvation", as Pope (2015) calls it, is pathological, for it prevents choosers from learning what are good decisions. The brain allows people to make decisions under risk, but this requires exercise, that is the experience of tiny, varied and frequent risks ("whiffs of danger"). Healthy brains do not tolerate significant shortfalls in this exercise. In this regard, as Pugno (2014) suggests, Scitovsky (1976) and the emphasis he put on novelty as source of satisfaction might provide elements to revisit some results of behavioural economics and open up new lines of inquiry, one of which, we add, could possibly centre on the positive role played by fear. But the general idea of such positive role for fear is now shared by many economists variously addressing the multiple dimensions of fear itself. Nelson's (2015) work on the association of fear with femininity (see also Bourke 2005) and the scarce interest it has traditionally raised in the realm of the masculine-associated discipline of economics concludes by claiming that such "fear aversion" severely damages economists' ability "to generate useful knowledge in the face of financial market instability and ecological threats". Curiously enough, Western world's obsession with safety – from the economic problem and other pressures – and comfort as against the risk of novelty and the associated possibility to experience fear might be at the roots of undesired boredom, limited hopes and (as corollary, to a certain extent) the belief to be able to manage all kinds of risks (Novarese 2011). The global crisis revealed the shaky foundations justifying this belief.

Sunstein's (2005) *Laws of Fear* might be considered, in the future, as the main stimulus, in the economic literature, to addressing the relationship between fear and policy. The virtual debate between Sunstein, who criticises the Precautionary Principle as incoherent and the potential origin of new dangers, and Origgi (2014), who sees the principle as the basis of a future-oriented ethics and, more in general, an ethical principle for dealing with the complexity and interdependencies of the real world, acts as a further demonstration of the relevance of fear to economics. The strength of fear, that of transcending the various dichotomies of human existence – individual and collective, rational and

emotional, theoretical and practical – by "imposing" its complexity and ambivalence on our reasoning is also a main weakness of conventional economics (and economic policy). While coping with the complexity of fear, economics will cope with the complexity of the environment wherein economists are called to operate, or rather to co-operate with contiguous disciplines in the management of societal contexts. More practically, contributions gathered in the *Mind & Society* symposium should provide some theoretical bases, as Amsel, Harbo and Halberstam (2015) would say, for identifying economic policies "for mitigating excessive individual and group fears in some cases and for creating a healthy threat response and perception of risk in others".

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